

AMENDMENTS TO THE SPECIFICATION

Please Amend the Abstract of the Disclosure as follows:

A vehicle dynamics behavior reproduction system capable of describing accurately behavior of a motor vehicle in a lateral direction even for nonlinear driving situation includes a vertical wheel force arithmetic ~~means-module~~ (105), a lateral wheel force arithmetic ~~means-module~~ (110), a cornering stiffness adaptation ~~means-module~~ (115), a state space model/observer unit (120), a selector (130), a delay ~~means-module~~ (135), and a tire side slip angle arithmetic ~~means-module~~ (125). Vertical wheel forces ($F_{Z_{ij}}$) and tire side slip angles (α_{ij}) are determined by using sensor information and estimated values while lateral wheel forces ($F_{Y_{ij}}$) are determined in accordance with a relatively simple nonlinear approximation equation. The lateral wheel force ($F_{Y_{ij}}$) and the tire side slip angle (α_{ij}) provide bases for adaptation of cornering stiffnesses at individual wheels. Vehicle motion is accurately described to a marginal stability by using adapted cornering stiffnesses (C_{ij}) and other information.